Sequoia National Forest
Giant Sequoia National Monument
Western Divide Ranger District

Tule River Reservation Protection Project

Background:

In July 2004, Congress passed the Tribal Forest Protection Act (Act). The Act was in response to devastating wildfires that started on Federal lands and crossed onto adjacent Tribal lands. The Act provides a tool for tribes to propose work on adjacent federal lands that would reduce the threat of fires starting on those lands from spreading onto trust lands for Indian tribes. Under the Act, tribes can propose projects to address fire, disease or other threats on Tribal lands or to address lands that are in need of restoration activities. The Act allows tribes to enter into contracts and agreements with the U.S. Forest Service or Bureau of Land Management to accomplish the work.

In October 2005, the Tule River Tribal Council submitted a project proposal to the Forest Supervisor of the Sequoia National Forest under the authority of the Tribal Forest Protection Act of 2004. The proposal included a series of fuel reduction actions on National Forest System lands, along the north boundary of the Tule River Reservation to reduce the threat of wildfire entering the reservation from the forest. The Pacific Southwest Regional Forester granted authority to work with the Tule River Tribal Council on their proposal. This project is the first under this authority and would address the threat of fire onto Tribal lands only. Subsequent projects will be analyzed in the future separately.

Location:

The proposed project area is approximately 1,574 acres on National Forest lands and is located along the northern boundary between the Sequoia National Forest, Giant Sequoia National Monument, and the Tule River Indian Reservation. The project is bounded by Forest Service Roads (FS) 21S12 on the west and north, FS 21S94 on the east, and the boundary between the Sequoia National Forest and the Tule River Indian Reservation on the south (see enclosed map). The legal description for the project area is T21S, R30E, Sections 1, 12, 13, 14, 15, 16; and T21S, R31E, Sections 3, 4, 6, 7, 8, 9, 10, 15, 16, 17 and 18. Elevations in the area range from 4,800 to 7,000 feet. The project area encompasses portions of the Black Mountain Giant Sequoia Grove, planted conifer stands, mixed conifer forest, Montane chaparral, and private lands.

Existing Conditions:

The project area is at the higher elevations of the Middle Fork Tule River watershed with the river tributaries on the north side of the river pointing toward the Reservation, particularly Long Canyon, Coffee Canyon, and the communities of Camp Nelson and Roger's Camp. In the last 15 years, the Tule River Canyon along the Middle Fork has been the location of

many wildfires that have thus far traveled on the north side of the river rather than south toward the reservation. The risk of fires spreading up Long Canyon and Coffee Canyon is high. Risk of fire spreading from the private lands to Tribal lands is also a threat. In 2007, a home caught on fire and burned to the ground in the Roger's Camp area.

Black Mountain Grove was inventoried in fall 2003, and was identified as having stands that "are now overstocked from decades of wildfire exclusion" (Jump 2004). The inventory was completed to measure and document the existing condition of the live and dead vegetation. The inventory revealed that the grove has an excessive number of snags and down logs which indicates an accumulation of stand density-related mortality over the last 30 to 40 years. Based on the Black Mountain Grove Inventory, there is an average of 459 conifers per acre of which 239 are seedlings. Hardwood tree species in the grove are at average of 105 trees per acre, 86 of which are seedlings. There is also an average of 35 standing dead trees per acre outside of planted stands. About three-fourths of these are less than 12 inches in diameter. Most of the intermediate understory trees are being killed by competition for light, water, and nutrients.

Planted stands within the grove have had no management activities since the last planting in 1989. The lack of management activities resulted in an overstocked stand. Trees planted in these stands are a mix of giant sequoia, ponderosa pine, sugar pine, and white fir. A significant number of incense cedar, black oak, dogwood, and willow reproduced naturally, and the ground between the trees is occupied by a mix of woody brush, fern, grasses, and forbs. The vegetative cover in the planted stands is greater than 80% and the multi-layered crown cover is continuous. Some of these stands have had insect outbreaks, but mortality has been restricted to small (one tenth to one quarter acre) openings.

Studies and records also show the majority of this stand has had no known fire occurrence since fire records have been maintained. This area has now missed many fire return intervals. The last fire ten acres or greater in size occurred 59 years ago. The combination of a lack of fires, lack of treatment to the planted stands and high fuel loading has created a high risk of unwanted fire spreading to Tribal lands, Black Mountain Giant Sequoia Grove, and the private lands.

Purpose and Need:

The purpose and need for the proposed actions are to respond to the proposal from the Tule River Tribal Council under the Tribal Forest Protection Act and to reduce the risk of wildland fire, starting on the Sequoia National Forest or private lands, from spreading onto the Tule River Reservation by reducing surface and ladder fuels.

Forest Plan Direction:

Management direction used in the development of this project include the Sequoia National Forest Land and Resource Management Plan (Forest Plan), the 1990 Mediated Settlement Agreement (MSA), and the 2001 Sierra Nevada Forest Plan Amendment (2001 Amendment). This project is in compliance with the proclamation establishing the Giant Sequoia National Monument (Proclamation).

The Black Mountain Inventory was used as a basis for the Black Mountain Fuel Load Reduction Evaluation (Sanders, 2008 in draft) required by the MSA. This evaluation identified the fuel load conditions and provided a short and long term strategy for reducing the fuel load while protecting and perpetuating the giant sequoias in the grove. This project was designed to be in concert with this evaluation and addresses short term strategies. The short term goal as stated in the evaluation "is to reduce the risk of unwanted fire in the Black Mountain Grove, private land, and the Tule River Indian Reservation" (Sanders, 2008). This goal is in line with administration of the groves which is to "protect, preserve, and restore the groves for the benefit and enjoyment of present and future generations" (MSA, page 6). Reducing fuels to protect Tribal lands would improve existing conditions in the grove and move the Black Mountain Grove closer to attaining the long term goals under the MSA.

Desired Conditions:

The majority of the project is located within "Old Forest Emphasis Areas" as described in the 2001 Amendment Record of Decision (ROD). Old Forest Emphasis Areas "provide a network of large, relatively contiguous landscapes distributed throughout the Sierra Nevada where old forest conditions and associated ecological processes predominate". Populations of old forest associated species are maintained by providing a substantial contribution of ecological conditions required for these species. Fuel treatments in these areas are intended to promote a natural range of conditions to develop over time (2001 Amendment ROD, pg. 8).

The area around the private land is located within the Urban Wildland Intermix Zone (Intermix Zone) as described in the 2001 Amendment ROD. The Intermix Zones are treated to move toward or maintain the following conditions with regard to fuels:

1. Wildland fire would burn with average flame lengths[1] of six feet or less;
2. The rate of fire spread would be less than 50% of the pre-treatment rate of spread; and
3. Fireline production rates[2] would be doubled.

These outcomes are to be achieved by reducing surface and ladder fuels and adjacent crown fuels such that the treatment would be effective for more than five years (2001 Amendment ROD, pg. A-2 and A-25).

Proposed Action:

The proposed action is to reduce surface and ladder fuels on approximately 1,574 acres with the activities in locations as described here:

1) Construct a shaded fuel break along ridgelines, private land, and roads using the following guidelines:

[1] Average length of the flame front from the ground to the flame tips.

[2] Fire line production rate is the distance in feet per hour of fire line produced. When determining if the production rate is doubled, the same width and method of fire line production would be compared.

a) Space trees to an average of 25 feet apart; do not cut trees over 12 inches dbh. In planted stands follow specifications for planted stands (see #2 below).
b) Remove ladder and surface fuels to meet an average canopy base height[3] of 20 feet that would produce an average flame length of less than six feet.
c) Pile cut trees and brush for burning.
d) Use prescribed fire, jackpot, and pile burning.
e) If slope steepness permits, use masticator or other heavy equipment to shred ladder and surface fuels or for piling.
f) If feasible, utilize materials as bio-mass and personal firewood.
g) Target shade-tolerant tree species[4] for cutting and retain oak trees.
h) A width of 200 feet (100 feet on both sides of the road) would apply to FS roads 21S94 (from Coy Flat to the Reservation boundary), 21S58, 21S12 (from 21S94 to 21S25), 21S12B, 21S25 (including spur roads A-D), and 21S58.
i) A width of 200 feet would apply on federal land along the private land boundaries.
j) A width of 300 feet would apply along the ridgeline on the eastern boundary and
k) A width of 150 feet would apply along the northern boundary of the Reservation from Black Mountain to the northeast corner of the Reservation boundary.
l) A 400 feet-wide fuel break would apply along FS road 21S12 (starting at intersection with 21S25 to Reservation boundary) and the ridgeline tying the fuel break to FS road 21S12B on the west side of the project.

2) Reduce fuels in planted stands. Treatment prescriptions are as follows:
   a) Where the largest trees are less than 8 inches diameter at breast height (dbh), thin reserve trees to 20 by 20 feet, plus or minus 10-feet average spacing. Where the largest trees are 8 inches and larger, thin trees to 25 feet, plus or minus 13-feet average spacing.
   b) Vary spacing to select the largest reserve trees, according to the species priority described below. However, favor the trees as listed in "d" below two size classes. (Size classes consist of 10-feet height classes and 2-inch diameter classes. For example, a 6-inch white fir would be cut to retain a 4-inch sugar pine.)
   c) Vary spacing both in the direction of travel (i.e., upslope/down slope) *and* wherever possible, in alternate directions (i.e., side slope).
   d) Select reserve trees in the following prioritized order:
      - 1: all trees greater than 14 inches dbh.
      - 2: giant sequoia
      - 3: black oak
      - 4: sugar pine
      - 5: natural regeneration trees
      - 6: select an average of 5 hardwoods per acre as reserve trees.
   e) Cut all non-reserve trees and 75% of the brush, including advanced regeneration. Stumps shall be kept to a height of 8 inches or less on the side adjacent to the highest ground level, except where safety makes this impractical.

[3] Canopy base height is the average distance from the ground to the lowest portion (base) of the tree crown.
[4] Shade-tolerant tree species examples are incense cedar, red fir, and white fir.

f) Stumps shall be kept to a height of 8 inches or less on the side adjacent to the highest ground level, except where safety or imbedded metal, make this impractical.
g) Snags shall not be cut unless the snag poses a threat to worker safety. If such structures are to be cut, consider leaving a high stump (i.e. 10–15 inches). If possible, establish a safety zone rather than cutting such snags.
h) Do not fall trees in pockets of existing downed wood.
j) Along riparian corridors, a 50-foot zone (slope-distance) shall be established on either side of the watercourse centerline to retain advanced riparian vegetation.
k) If this zone is treated, spacing between reserve trees and the amount of brush retained shall be adjusted (narrower spacing) to achieve a minimum of 60% canopy cover immediately following the completion of thinning operations. Canopy cover measurements shall be made from various points along the watercourse centerline.
l) To the fullest extent possible, and with due consideration given to topography, lean of trees, landings, utility lines, local obstructions, and safety factors, trees shall be felled to lead in a direction away from watercourses possessing aquatic habitat.
m) Slash may be masticated where slopes allow and where heavy equipment use does not threaten slope stability or water-quality.
n) Slash may be piled and burned.
o) Slash may include existing down wood on site.
p) Slash may be lopped and pulled out of the treatment area. If so, removed slash may be sold as fuel wood burned in piles during the appropriate season.
q) Leave trees may be limbed to reduce fire risk if deemed necessary.

3) Prescribe burn between planted stands and shaded fuel breaks (see map).

The treatment areas are more numerous and wider on the west side of the project area when compared to the east side. This strategy was used because: 1) the threat of wildfire spread is mainly from Long Canyon, Coffee Canyon, and Stevenson's Gulch. Historically, most fire starts have been near the base of these canyons and these canyons have not burned for many years; and 2) should a wildfire occur, most resources may be focused on stopping fire spread to the communities of Camp Nelson and Roger's Camp, not at the west side of the project area where no structures exist, therefore, treatments are wider. The acreage proposed for treatment is summarized in the following table:

Table 1. Acreage proposed for treatment inside and outside the Black Mountain Giant Sequoia Grove with the Tule River Reservation Protection Project.

Treatment and Location	Acres in Grove	Acres outside Grove
Shaded fuel break along ridges, roads and around private land.	435	398
Planted stands	308	119
Prescribed burn between planted stands and shaded fuel breaks.	274	40
Total	1017	557

Mitigation Measure

An issue was raised during the development of this proposed action that generated the following mitigation measure, which is included in this proposed action.

Removing surface and ladder fuels along the boundary of the Tule River Indian Reservation would reduce native barriers that keep livestock from entering National Forest System land. The existing fences are in disrepair from trees falling on them and lack of maintenance. To mitigate this issue, the proposed action includes reconstructing the fence to prevent livestock movement across the boundary. The fence will be composed of barbed wire with metal and/or wood fence posts. The bottom wire of the fence will be smooth and not barbed to prevent entrapment and damage to wildlife species.

Design Features

Design features for this project were developed to follow the Forest Plan (including amendments) standards and guidelines and/or applicable laws, regulations and policies, or to respond to issues generated by the proposed action.

Wildlife

1. To avoid disturbance to wildlife species, maintain a limited operating period (LOP), prohibiting activities within approximately ¼ mile of any spotted owl nest site (March 1 through August 15), goshawk nest site (February 15 through September 15), or fisher and marten den buffers (March 1 through June 30 and May 1 through July 31, respectively)(2001 Amendment ROD, Appendix A pages 34, 37, 38 and 39).
2. No snags would be cut down except where they pose a safety hazard.
3. The 2001 Amendment states "retain pieces of down wood until at least 10 to 20 tons per acre are retained over a treatment unit. Do not retain pieces smaller than 12 inches diameter at midpoint to meet this standard." To maintain habitat for wildlife that depend on large woody debris, retain all such large woody debris. (2001 Amendment ROD page 28).
4. Fence requirements for prevention of injury to wildlife (ie. Smooth wire along top).

Watershed

Project design features would be similar to those specified in the *Project Design Features for Stream Side Management Zones for the Ponderosa Urban Interface Project* (Courter, 2007) and are summarized here:

All areas - Project implementation would include use of applicable Best Management Practices (BMP) as described in the Hydrology Report for the Ponderosa Urban Interface Project. This would apply to all perennial creeks in the project area including Deadman Creek, and Wilson Creek and its unnamed tributaries. The riparian conservation areas for this project would be 300 feet on either side of the stream and specific prescriptions to meet riparian conservation objectives (RCO) will be developed as part of the hydrology analysis.

Noxious Weeds

1. The following noxious weed prevention practices would be implemented to reduce risk of noxious weed spread:
    a. All equipment used would be cleaned to remove all soil, seed, and plant materials prior to entering National Forest System (NFS) lands.
    b. Equipment used to transport personnel and materials, or any equipment that enters and leaves the project area that has been exposed to any plant species considered noxious would be cleaned to remove soil, seed, and plant materials before returning to the project area or entering NFS lands.
    c. Any weed occurrences found during project layout and implementation would be reported to the Noxious Weed Prevention Coordinator.

Heritage Resources

To avoid impacts to archaeological and historic sites, the Zone Archaeologist will work closely with the Fuels Specialist regarding treatment in and around known historic properties. Because the protection measure will vary, depending upon the site and the nature of the activity on the site, each site will be visited by the Zone Archaeologist and site specific protection will be developed based on surface fuels and hazard fuel levels.

Standard protective measures would be taken from those identified in the current programmatic agreements. At the time of this writing, current programmatic agreements are as follows: *First Amended Regional Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region, 2001* (Regional PA), *Interim Protocol for Non-Intensive Inventory Strategies for Hazardous Fuel and Vegetation Reduction Projects* (*Fire Protocol*; annex to Stipulation IX of the Regional PA) and *Prescribed Fire and The Protection Of Heritage Resources: A Heritage Resources Management Module (Fire Module).* All sites will receive the following protection:

a. Vegetation may be removed using hand tools, so long as ground disturbance is minimized, and features are avoided.
b. Vegetation to be burned shall not be piled within the boundaries of historic properties unless the location (e.g., a previously disturbed area) has been specifically approved by the Zone Archaeologist.
c. Mechanically treated (cut) brush or downed woody material would be removed from historic properties by hand. Ground disturbance shall be minimized to the extent practicable during such removals.

If appropriate protection cannot be provided, the undertaking shall be subject to the provisions of 36 CFR 800.

Monitoring

1. Archaeological monitoring, consisting of observing any effects to the site and newly observed artifacts or features, would be completed within one year of final project activities. If the recommended work is not completed within this period of time, the Forest shall notify and consult with Region 5, the State Historic Preservation Office, and the Advisory Council on Historic Preservation on appropriate actions needed to complete the work within an agreed upon time period, or failing to do so, shall comply with 36 CFR 800.
2. Information from any post-archaeological project inventory, monitoring, or evaluation shall be used to assess the effectiveness of this non-intensive inventory approach. The results shall be reported in the Forest's Annual Report (Regional PA or Sierra PA).
3. Hydrology surveys along Wilson Creek would be completed within one year of final project activities. As part of the Sierra Nevada Forest Plan Amendment (2001), Stream Classification Inventory (SCI) protocol would be used to monitor post project activities.

Scoping to Date:

The Tule River Reservation Protection Project was initially announced to the public in a news release on February 28, 2006. At the time, the project was in the early planning stages and general information was provided in the release. It was added to the Sequoia National Forest's Schedule of Proposed Actions (SOPA) in June 2006. A pre-scoping letter soliciting comments about the proposed project was sent to approximately 37 interested individuals on March 2, 2006. Two comment letters were received as a result of the pre-scoping letter. A field trip, scheduled for September 2, 2006, was announced in a news release on August 21, 2006, and in a letter sent to the pre-scoping list of interested individuals. The field trip was attended by 27 individuals. Suggestions regarding the project were incorporated into the proposal, where possible. This included adding some areas of prescribed burn between some of the areas treated mechanically.

Decision to be Made by the Responsible Official

The decision to be made is whether or not to approve the fuels reduction project as described. As proposed, the decision would not include a Forest Plan Amendment. The responsible official to make the decision is the Forest Supervisor, Tina Terrell.

Implementation Date

The project would begin in 2010. Completion of the project is dependent on annual funding.